One of the most troubling complaints of families raising a child with Fetal Alcohol Spectrum Disorder (FASD) is that the professionals they look to for help lack knowledge about this disability.1 Nurses are the first healthcare professionals to have an opportunity to work with such families. A nurse’s knowledge base about FASD is critical to helping the mother-child dyad and to the long-term well-being of the family. Studies have shown that infants exposed to alcohol prenatally have the best outcomes when they get early interventions, receive quality care from professionals, are discharged to stable nurturing homes and are provided stimulating and stress-free environments by their parents.1-3

What is FASD?
The adverse effects of women drinking alcohol during pregnancy have been noted since ancient times but the message has been forgotten repeatedly. The teratogenic effects of alcohol exposure on the developing fetus result in a continuum of symptoms and disabilities that is referred to as Fetal Alcohol Spectrum Disorder (FASD).5,6 The most devastating of these effects are brain injury and neurobehavioral deficits.7 The term FASD is descriptive not diagnostic. Its use was agreed upon by the National Task Force on Fetal Alcohol Syndrome.
and Fetal Alcohol Effect (FAE) and the federal Interagency Coordinating Committee on Fetal Alcohol Syndrome in April 2004. FASD includes a wide range of disabilities from mild learning difficulties to fetal death. Usually, children who survive with FASD must deal with lifelong sequelae, including physical, mental and behavioral disabilities.

In the U.S. Fetal Alcohol Syndrome (FAS) was first described in 1973 as a cluster of effects observed in a Native American child with known prenatal alcohol exposure.4 FAS is now known to be a birth defect with a group of characteristic signs and symptoms caused by maternal alcohol consumption during pregnancy. The specific types and severity of these effects depend on several factors: the dose and timing of alcohol exposure relative to the stage of fetal development; the nutritional status of the mother; and the genetic makeup of the parents.8-10

The diagnosis of FAS requires the presence of three features: (1) dysmorphic facial features (2) small body and head size and (3) cognitive disorder, listed in Box 1.11 Figure 1 shows the most common facial features associated with FAS, although these features may be poorly defined at birth and become more apparent in the next few months or years of life. Table 1 outlines other syndromes which can present with some of the same facial features as FAS and should be considered when assessing an infant for possible FAS.

A variety of terms have been used to characterize the effects of less-than-full FAS. Common diagnostic terms within this spectrum are Fetal Alcohol Spectrum Disorder (FASD), Alcohol Related Birth Defects, Alcohol Related Neurodevelopmental Disorder (ARND) and Partial Fetal Alcohol Syndrome.

The term Fetal Alcohol Effect (FAE), first used in 1978, described a range of effects caused by prenatal alcohol exposure that did not result in a diagnosis of FAS because of a lack of various aspects of the syndrome. Concerned about the validity of the term FAE, the Institute of Medicine (IOM) developed new diagnostic criteria in 1996, and the term FAE is no longer used.11,12 The IOM describes Partial FAS as a diagnostic classification that includes: (1) growth deficiency—whether due to low birth weight, decelerating weight over time unrelated to nutrition, or disproportionate height to weight, (2) some evidence of the facial features of FAS and (3) central nervous system damage, such as decreased cranial size at birth, structural abnormalities, neurological hard or soft signs, cognitive/functional impairment and evidence of prenatal alcohol exposure.11

Alcohol Related Neurodevelopmental Disorders (ARND) is a diagnostic classification in which no physical signs are present. The diagnosis of ARND depends on signs of CNS damage (structural, neurological, and/or functional impairment), knowledge of prenatal alcohol exposure and exclusion of environmental causal factors. A consensus work group to determine if there is sufficient research evidence to encourage screening and diagnosis for ARND in primary care settings was convened in the Fall of 2011. The results of the work group are available at http://www.niaaa.nih.gov/AboutNIAAA/Interagency/Pages/default.aspx.

Incidence
FAS has an estimated prevalence rate of 2.0 to 7.0 cases per 1,000 live births in the U.S.5,13,14 FAS is the leading known preventable cause of mental retardation and developmental disabilities. FASD, which includes FAS and the other conditions within the spectrum, have prevalence rates estimated at 9-10 per 1000, and are known to be higher than those of Down syndrome or autism spectrum disorder.1,5,15 Each year, as many as 40,000 babies are born with FASD. It is the most expensive birth defect in the U.S. costing the nation about $4 billion per year.16,17

The Behavioral Risk Factor Surveillance System has shown that drinking rates among women of childbearing age have not

---

Box 1: Three Requirements for the Diagnosis of FAS

All three facial abnormalities: (see Figure 1)

- Smooth philtrum — Based on the University of Washington
- Thin vermilion border — Lip-Philtrum Guide rank 4 or 5.45
- Small palpebral fissures: at or below 10th percentile.

Growth deficits with height or weight <10th percentile. CNS abnormalities (structural, neurological and/or functional) with or without confirmed maternal alcohol exposure.


---

Figure 1: Facial characteristics associated with fetal alcohol exposure

changed for the past 20 years. Data from 1991 through 2005 showed that at least 12% of pregnant women had reported some alcohol use in the past 30 days. In one study 45% of pregnant women reported drinking alcohol in the month prior to pregnancy, and almost half of pregnant women had consumed some alcohol during pregnancy. These are alarming rates, considering that there is no known safe level of alcohol on the fetus.18 Many women will stop drinking once they find out they are pregnant, but many will have consumed alcohol early in the pregnancy, prior to knowing they were pregnant.

What disabilities are encountered by children and adults who were exposed to alcohol in utero?
Children and adults affected by prenatal alcohol exposure most commonly exhibit neurobehavioral deficits, particularly in the area of executive function (EF).19 Impairment of EF causes significant deficits in planning ability, flexible thinking and problem-solving. These difficulties result from an impaired ability to predict the consequences of one’s actions. Disability in EF often leads to conflicts with both peers and adults during childhood. By adolescence it sometimes results in involvement with the criminal justice system.

Affected individuals who do not have the physical features of full-blown FAS may remain undiagnosed, and the cause of their unacceptable behavior may also remain unidentified and untreated. In many cases the affected individual reaches adulthood unable to live independently.3

Why are FASD infants not identified in healthcare settings?
Studies show that primary pediatric providers often do not recognize FASD, or even the full syndrome of FAS. Diagnosis of infants is even more difficult than diagnosing young children because of: (1) a lack of knowledge by neonatal medical and nursing staff about FASD, (2) inadequate information about the mother’s prenatal drinking patterns and (3) the fact that not all of the features typically used for diagnosis are present at birth.20 Obtaining the information about mothers’ drinking patterns during pregnancy is often the only way to confirm the diagnosis of ARND as the cause of later neurodevelopmental, cognitive and/or behavioral problems. Nurses typically have the earliest and best communication with the newborn’s parents. Nurses are often in a position to obtain vital information about the mother’s drinking patterns during pregnancy. It is critically important that this information be thoroughly documented in the infant’s medical record and then shared with other team members who can garner the necessary resources to assist the infant and family. Social workers remind us that mothers are much more likely to reveal sensitive information to the baby’s nurses than to a social worker, who is often regarded with suspicion.

The barriers to obtaining a reliable history include not only lack of skills and preparation by nurses but patients’ fear of the consequences of completely honest communication. Use of standardized assessment tools, proven communication techniques (such as Motivational Interviewing [MI]—see Sidebar), and keeping an open, positive attitude, facilitate communication with patients. In working with an at-risk population, it is beneficial to understand your own beliefs and prejudices about alcohol and drug abuse and how they might affect your interactions with

Table 1: Differential diagnosis of individual features associated with FAS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Syndromes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth philtrum</td>
<td>• Cornelia de Lange syndrome</td>
</tr>
<tr>
<td></td>
<td>• Floating-Harbor syndrome</td>
</tr>
<tr>
<td></td>
<td>• Geleophysic dysplasia</td>
</tr>
<tr>
<td></td>
<td>• Opitz syndrome</td>
</tr>
<tr>
<td></td>
<td>• Toluene embryopathy</td>
</tr>
<tr>
<td>Thin vermillion border</td>
<td>• Miller-Dieker (Lissencephaly) syndrome</td>
</tr>
<tr>
<td></td>
<td>• Fetal Valproate syndrome</td>
</tr>
<tr>
<td></td>
<td>• Geleophysic dysplasia</td>
</tr>
<tr>
<td></td>
<td>• Cornelia de Lange syndrome</td>
</tr>
<tr>
<td></td>
<td>• Toluene embryopathy</td>
</tr>
<tr>
<td>Small palpebral fissures</td>
<td>• Campomelic dysplasia</td>
</tr>
<tr>
<td></td>
<td>• DiGeorge sequence</td>
</tr>
<tr>
<td></td>
<td>• Dubowitz syndrome</td>
</tr>
<tr>
<td></td>
<td>• Duplication 10q sequence</td>
</tr>
<tr>
<td></td>
<td>• Duplication 15q sequence</td>
</tr>
<tr>
<td></td>
<td>• FG syndrome</td>
</tr>
<tr>
<td></td>
<td>• Maternal phenylketonuria (PKU) fetal effects</td>
</tr>
<tr>
<td></td>
<td>• Oculodentodigital syndrome</td>
</tr>
<tr>
<td></td>
<td>• Opitz syndrome</td>
</tr>
<tr>
<td></td>
<td>• Trisomy 18 syndrome</td>
</tr>
<tr>
<td></td>
<td>• Williams syndrome</td>
</tr>
<tr>
<td></td>
<td>• Velocardiofacial syndrome</td>
</tr>
<tr>
<td></td>
<td>• Toluene embryopathy</td>
</tr>
</tbody>
</table>

Note: Features that discriminate these disorders from FAS can be found in Jones, 1997. (Source from Bertrand J, Floyd RL, Weber MK, O’Connor M, Riley EP, Johnson KA, Cohen DE, National Task Force on FAS/FAE. Fetal Alcohol Syndrome: Guidelines for Referral and Diagnosis. Atlanta, GA: Centers for Disease Control and Prevention; 2004.)45
parents. Nurses facilitate a positive communication when the patient is approached non-judgmentally, empathetically and with an intention to be of assistance. An opinionated, condemning or aloof manner aborts effective communication and a therapeutic relationship with the family.

Fifty percent of the female population enjoys social alcohol consumption from time to time. However, 20% of these same women “risk drink” or overindulge. Risk drinking for women is defined as more than 3 drinks at a setting or more than 7 drinks in a week. A standard drink is considered a 12 ounce can of beer, a 5 ounce glass of wine or one and one-half ounces of hard liquor (see Figure 2). While social alcohol consumption is acceptable to most people, alcohol used in excess (especially for a woman), during pregnancy, or around young children, is often stigmatized. Many believe that such a mother doesn’t care about her child or about the effect the alcohol is having on the developing fetus. But in fact, a woman who continues to drink well into her pregnancy or throughout the pregnancy is likely suffering from a substance use disorder and is simply unable to quit on her own.

Screening Tools
Discussing the volume of a standard drink is important to insure that you and the patient are both talking about the same amount of alcohol. Standard screening tools include helpful questions nurses can ask in simple conversations with mothers at the bedside. Using MI can help improve the communication, as well as provide a strategy for a brief intervention, if warranted.

Screening tools should be used prior to asking any other questions about alcohol use. There are several reliable screening tools that are both sensitive (do not miss “risk drinkers”) and specific (do not over-identify too many low-risk drinkers). The gold standard for gathering information on how much a woman is actually drinking is the Timeline Follow-back typically used in research.

For clinical settings, the following screening tools are both sensitive and specific. Some tools are more appropriate for adults than for adolescents and some are more reliable in determining all risk drinking during pregnancy. The CAGE (see Table 2) was initially developed for males, and became the foundation for many of the other screening tools in use today. However, the CAGE was not found to be “sensitive to risk drinking at any cut point.”

The T-ACE and the TWEAK are two screening tools designed specifically for pregnant women, and have been shown to be both sensitive and specific for women of childbearing age. TWEAK (see Table 3) is similar to the CAGE but omits the question related to guilt, and adds the tolerance question. However, note that a positive for the tolerance question, regarding how many drinks the subject can have before passing out (amnesia or black outs) requires an answer of 5+. Since significantly less alcohol use has been shown to be harmful to the fetus, this screen will miss the mothers who can hold up to 4 drinks before passing out.

The T-ACE (see Table 4) also was derived from the CAGE, and was developed for use in OB/GYN clinics. It has been shown to be a brief, efficient screen for risk drinking, out-performs clinical assessment alone, and is the most sensitive instrument in detecting current alcohol consumption. T-ACE also
Table 3: TWEAK Screening Tool

<table>
<thead>
<tr>
<th>T</th>
<th>Tolerance: How many drinks can you hold?</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Do your family or friends ever worry or complain about your drinking?</td>
</tr>
<tr>
<td>E</td>
<td>Have you ever had an Eye opener?</td>
</tr>
<tr>
<td>A</td>
<td>Amnesia or black outs while drinking?</td>
</tr>
<tr>
<td>C</td>
<td>Have you ever felt the need to cut down on your drinking?</td>
</tr>
</tbody>
</table>

Scoring: Tolerance: 2 pts if she can hold more than 5 drinks w/o falling asleep or passing out
Worry: positive is 2 pts
All other questions: 1 pt

Table 4: T-ACE Screening Tool

<table>
<thead>
<tr>
<th>T</th>
<th>Tolerance: How many drinks would it take to make you feel high?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Annoyed: Have people annoyed you by criticizing your drinking?</td>
</tr>
<tr>
<td>C</td>
<td>Cut Down: Have you ever felt you ought to cut down on your drinking?</td>
</tr>
<tr>
<td>E</td>
<td>Eye opener: Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?</td>
</tr>
</tbody>
</table>

Scoring: A Positive Screen is a score of 2 pts or more. Answer of 2 or more on tolerance is a positive 2 points. A positive on A, C, E each score one point.

Table 5: AUDIT-C Screening Tool

1. How often do you have a drink containing alcohol?
   - a. Never
   - b. Monthly or less
   - c. 2-4 times a month
   - d. 2-3 times a week
   - e. 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day?
   - a. 1 or 2
   - b. 3 or 4
   - c. 5 or 6
   - d. 7 to 9
   - e. 10 or more

3. How often do you have six or more drinks on one occasion?
   - a. Never
   - b. Less than monthly
   - c. Monthly
   - d. Weekly
   - e. Daily or almost daily

Scoring: The AUDIT-C is scored on a scale of 0-12 points
   - a=0
   - b=1
   - c=2
   - d=3
   - e=4

In men, a score of 4 or more is considered positive.
In women, a score of 3 or more is considered positive.

Positive score: Optimal for identifying hazardous drinking or active alcohol use disorders.

However, when the points are all from Questions 1 alone (#2 and #3 are zero), it can be assumed that the patient is drinking below recommended limits and it is suggested that the provider review the patient’s alcohol intake over the past few months to confirm accuracy.

replaces the question about feeling guilty with a question about tolerance. However, in this screen, a “positive” for the tolerance questions requires the patient to feel high after only 2+ drinks, thus setting a lower threshold to screen a risk drinker. Because the current research is quite clear that even small amounts of alcohol might be damaging to the fetus, choosing a tool that is both sensitive and specific for this population is critical. Asking: “How many drinks make you feel high?”, rather than “How many drinks can you hold?” might lead to different answers based on social expectations. Another screening tool that identifies risk drinkers is the AUDIT-C (See Table 5), which contains the first 3 questions of the World Health Organization’s screening tool: The AUDIT Alcohol Use and Pregnancy: Improving Identification. Working with adolescent mothers requires the use of a tool designed for the adolescent population. CRAFFT (see Table 6) is a validated screening tool that was tested on 14-18 year olds. The tool’s validity is dependent on asking the questions in private, away from the adolescent’s parents.

Screening for risk of an alcohol-exposed pregnancy must be done systematically to ensure efficacy. Asking frequency and quantity of alcohol consumption questions prior
to screening questions decreases sensitivity of the screen by 95% to 32%.31 If the screening test is positive, more detailed questions about quantity and frequency are necessary and can be facilitated by using the AUDIT-C (see Table 5).28

Nurses in the NICU, nursery and/or pediatrician’s office will be screening women who have been pregnant. These mothers may not have consumed alcohol during pregnancy or may have stopped drinking once the pregnancy is discovered and indicate that no alcohol was consumed. To determine alcohol-exposure in early pregnancy and to identify more accurate measurement of drinking patterns prior to pregnancy, ask questions on the AUDIT-C tool with the caveat: “Prior to pregnancy…” Then ask, “When did you realize you were pregnant?” which may give you a window into alcohol-exposure during pregnancy.

### How to converse with the woman whose screening tool is positive

Screening tools are used to identify women needing further assessment, not to diagnose an alcohol problem. When a woman’s screening test is positive the nurse is required to explore with her the frequency and quantity of her drinking. This conversation can be initiated by asking permission to discuss the results of the screening with her. Risk drinking (see Box 2) is explained to the patient as any drinking during pregnancy because there is no safe level of alcohol at any time during the pregnancy. Sexually active, childbearing-age women who risk-drink and do not use contraception are at especially high-risk for unknowingly exposing a fetus to alcohol. A randomized controlled trial, Project CHOICES, was recently conducted to reduce the risk of an alcohol-exposed pregnancy in this group of women.32

The women were randomized to receive either information alone or information coupled with MI (four counseling sessions, one contraception consult/service visit). By changing their drinking patterns to below risk levels or by effectively using contraception the women receiving a brief MI changed their risk of an alcohol-exposed pregnancy by 68.5%.32

### Benefits of early identification and diagnosis

Once a woman gives birth, knowing her drinking patterns during pregnancy is important for early identification and interventions for the neonate as well as to prevent future alcohol-exposed pregnancies. Many infants exposed to alcohol and other drugs are cared for in well-baby nurseries and are never admitted to the NICU. For these infants, critical information may be obtained by the Mother-Baby nurse caring for the couplet during short hospital stays.

Challenging or arguing with a mother who denies alcohol use during pregnancy is counter-productive and may compromise the therapeutic relationship. If alcohol use is suspected, asking the father or other family member may provide a more accurate history. It may help to tell the family member that you are concerned because the baby is small for size, hypertonic or has difficulty with self-regulation. While these findings may be due to many causes other than alcohol intake, this tactic may assist in obtaining the needed information. The conversation should be held in private, noting to the family member that it is often hard to acknowledge alcohol use because of feeling responsible for something being wrong with the infant. Help the mothers and their families understand that there are many women who drink prior to knowing they are pregnant, and many women who continue drinking during pregnancy often don’t know how to stop drinking. Whichever of these scenarios resulted in an alcohol-exposed fetus, mothers need to be supported rather than blamed.

Early identification and subsequent early intervention are critical to improving the affected individual’s entire life. Identifying a mother who needs treatment for her substance abuse significantly benefits the child’s growth, development, and behavior. Early diagnosis, before the age of six, is a protective factor for the development of secondary disabilities (i.e., school failure, trouble with the law, job failure and inability to live independently) later in life.3 Being identified as alcohol-exposed at a young age enables children to receive not only increased amounts, but also appropriate types of interventions and interventions.
Many infants are not recognized as being prenatally exposed at birth.\textsuperscript{1,3,4} Heavy prenatal alcohol exposure causes a continuum of neurological and behavioral effects and FAS is only one point on the continuum (see Table 7).\textsuperscript{7} Because the majority of prenatally exposed newborns do not have the “face” of FAS they are often missed. Facial dysmorphism occurs in a very narrow window of the third and fourth week of pregnancy.\textsuperscript{39} Even after organogenesis, continuing exposure of the CNS to alcohol results in damage that impacts learning, behavior, and overall intellectual functioning.\textsuperscript{39}

In one study of 40 infants born to mothers with alcoholism, all had obstetric records listing a history of alcohol use during pregnancy—but none of the children received a diagnosis of FAS. Of the six children examined all had Fetal Alcohol Syndrome.\textsuperscript{34} Good communication between maternal and pediatric healthcare providers is essential so that the child’s provider is aware of prenatal alcohol exposure, makes the correct diagnosis, and chooses treatment specific for the condition.

**Table 7: Signs and Symptoms of Prenatal Alcohol Exposure**

<table>
<thead>
<tr>
<th>Growing slower than expected in weight, height and/or head size (may have been small for dates at birth).</th>
<th>Rule out failure-to-thrive vs. small size due to prenatal alcohol exposure.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding difficulties</td>
<td>Assess for facial or oral cavity dysmorphology, hypotonia, including facial hypotonia, state control, ability to achieve and maintain alert state to feed.</td>
</tr>
<tr>
<td>Poor state modulation. Unusually fussy, rarely quiet and content when awake, goes quickly from calm to screaming, difficult to console, “very colicky.”</td>
<td>Vertical rocking, swaddling. Evaluate sensory overload including visual, auditory and tactile (including types of clothing).</td>
</tr>
<tr>
<td>Sleeps poorly, usually wakes up crying</td>
<td>Establish sleep/wake routines</td>
</tr>
<tr>
<td>Delayed achievement of developmental milestones</td>
<td>Watch for delays and make appropriate referrals to address early. Teach parents about developmental milestones.</td>
</tr>
<tr>
<td>Unusually active for age, unusual repetitive behaviors</td>
<td>With older children hyperactivity or perseverative behaviors may occur. Realize hyperactivity can be a red flag for prenatal exposure.</td>
</tr>
<tr>
<td>Attention span short for age</td>
<td>Often have inability to focus and poor memory when learning new skills. Older children don’t learn from previous mistakes.</td>
</tr>
<tr>
<td>Hypo/Hypertonic</td>
<td>Motor skill development often lags or is impaired.</td>
</tr>
</tbody>
</table>

**Identifying the FASD infant**

Many infants are not recognized as being prenatally exposed at birth.\textsuperscript{1,3,4} Heavy prenatal alcohol exposure causes a continuum of neurological and behavioral effects and FAS

A history of the mother’s alcohol use during pregnancy is the most common identifying “finding” in the newborn, so obtaining a thorough, accurate perinatal history is vital. Urine samples are rarely positive for alcohol. A meconium test for alcohol metabolites that is positive indicates alcohol exposure during the second half of pregnancy.\textsuperscript{35} Meconium testing identifies both moderate and binge drinkers, and predicts motor and neurocognitive delays.\textsuperscript{35,38} Unfortunately, testing for alcohol is not included in routine meconium testing, must be ordered separately, and is expensive. Moreover, it is currently available in only a few labs.

Intrauterine growth restriction, marginal postnatal growth, borderline small head for body size, fussiness and feeding difficulties may have been caused by alcohol-exposure but are not diagnostic. Usually they are attributed to the condition that led to admission to the NICU. A small number of infants with less severe effects than full-blown FAS may have congenital physical anomalies which were, in fact, caused by alcohol exposure. Nevertheless, the amount of exposure that might significantly affect cognitive ability and behavior is not considered an indication for testing to search for internal organ anomalies, unless there were clues on the fetal ultrasound or physical findings suggestive of such problems, e.g. a significant heart murmur.

**Early intervention matters**

Alcohol-exposed infants need closer than normal monitoring of feeding, growth and development. Through Part C of the Individuals with Disabilities Education Act, all states have some system of early intervention developmental resources for high-risk children aged birth to 3 years. Alcohol or drug-exposed infants are eligible for evaluation by each state’s Early Intervention Program. At birth these infants may not demonstrate special needs; however, they are at-risk and require continual monitoring and timely referral if problems develop. Either the family or medical provider can access the Part C program. Early therapies can significantly improve the child’s cognitive and behavioral readiness for school and prevent what might otherwise become early failure.
Parent attachment and caretaking are pivotal development features that are influenced by alcohol exposure. When mothers are able to provide a high level of emotional support their children show strong signs of attachment and have better coping skills. There is also a direct relationship between caregiver stress and the behavior problems of children affected by prenatal alcohol exposure. Caregiver stress or parental depression may lead to maladaptive parenting, and the risk of parent-child interactions that can become strained and even abusive. There is also a strong relationship between heavy maternal drinking and depression, resulting in insecure attachments in infancy, later depressive signs in the child, and internalizing behavior problems in childhood by age 5. Due to the relationship between caregiver stress and depression, neonatal nurses should assess parents using tools like the Parenting Stress Index and the BECKS Depression Scale. Referral for a home visiting program after discharge can be beneficial for both parenting success and child development.

Once parents understand the risks – and the availability of resources to prevent or minimize their child’s possible future challenges, they become Partners-in-Care. Because parents are experts about their child they can partner with the healthcare team to monitor for signs and symptoms needing intervention. Knowing that a child is at high risk, parents are prepared to advocate for their child by seeking evaluation and therapy at the first sign of problems, rather than waiting to see if he/she will “grow out of it.”

The Child Abuse and Prevention Treatment Act (CAPTA) Reauthorization Act of 2010 is a source of funding for child welfare with specific
eligibility requirements. One new area of the legislation states that healthcare providers must make appropriate referrals to Child Protective Services (CPS) for the development of service plans to ensure the safe care of newborns affected by prenatal drug exposure or diagnosed with an FASD. A positive alcohol screen during pregnancy requires a more thorough medical workup of the infant prior to referral to CPS. However, if a formal diagnosis is made after screening a new mother for prenatal alcohol use, a healthcare provider needs to be aware of the law.

ABOUT THE AUTHORS
Pamela Gillen, ND, RN, CSN, is assistant professor of research in the Department of Nursing and the project director for the University of Colorado Denver, Anschutz Medical Campus Colorado Fetal Alcohol Prevention Outreach Project (COFAS-POP). She has over 30 years experience in the Health and Human Services field, as a public health nurse, nurse coordinator and nurse case manager for at-risk pregnancies working with high-risk women of childbearing age to help prevent Fetal Alcohol Spectrum Disorder/Alcohol Tobacco and Other Drugs (FASD/ATOD) affected infants. Dr. Gillen will be the co-chair of the National FASD Center for Excellence Expert panel for the next 5 years. She has lectured nationally on issues that relate to the prevention of fetal alcohol spectrum disorder.

Sharon Langendoerfer, MD, has been a practicing neonatologist and pediatrician for high-risk infants at Denver Health and Hospitals for the past 35 years. She has been a member of Colorado Fetal Alcohol and Substance Abuse Coalition for the past 20 years and is currently an appointed member of the Colorado State Commission on FASD. Dr. Langendoerfer has also been a volunteer at the March of Dimes for 35 years.

Karen Fehringer, PhD, OTR, is assistant clinical professor at the University of Colorado Anschutz Medical Campus, Colorado School of Public Health, where she is a researcher in infancy, child development, and oral health care. She is a practicing occupational therapist at the University of Colorado Hospital Neonatal Intensive Care Unit. Dr. Fehringer has more than 35 years of experience in neonatal intensive care units, pediatric in- and out-patient settings, birth to three-year and school district programs. She is a former special education coordinator and specializes in assessment and management of FASD. Dr. Fehringer is an appointed member of the Colorado State Commission on FASD.
REFERENCES


